

AN EXPLANATION OF THE PENNSYLVANIA
SEED LAW
[AND PRESCRIBED FORMS OF TAGS]

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J. G. SANDERS, Director.



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HON. FRED RASMUSSEN,
SECRETARY OF AGRICULTURE,

SIR:

I have the honor to transmit herewith, for publication as a bulletin of the Pennsylvania State Department of Agriculture, a manuscript entitled "An Explanation of the Pennsylvania Seed Law."

Fully appreciating the great value and manifold benefits that will accrue to the farmers of Pennsylvania through the enactment of the new seed law, effective July 1, 1921, it also has been deemed expedient and timely to issue this proposed popular bulletin for the information and guidance of the farmers and seedsmen. This bulletin presents the requirements, objects and functions of the law in a comprehensive manner and prescribes the form of tags to be used for labeling seeds offered for sale.

Yours very truly,

James G. Sanders

Director, Bureau of Plant Industry.

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THE VALUE OF PURE SEEDS.

By Frederik Rasmussen.

Regardless of the effective legislation, enacted through the persistent efforts of the Pennsylvania Department of Agriculture, bearing upon the important question of "pure seeds", it is evident that we must view the matter from certain angles, which may be affected only indirectly by any regulation or code of procedure.

The most potent and far-reaching factors, having direct bearing on this important issue of clean, high-quality seeds are essentially educational. Any good results to be had through the enactment of pertinent laws, must of necessity be influenced to a large degree by the care that has been employed in preparing the consumer, the dealer and grower, to meet the conditions brought into action by such important regulatory legislation.

Pennsylvania now has a "seed law" and the provisions of the law are being put into effect as rapidly as conditions will admit. In many cases, such meritorious legislation has been in effect in other states for some time and notwithstanding the flaws and faults that invariably "crop out" when new codes and regulations are substituted for the old order, the cumulative benefits to be had under the operation of such laws are readily appreciated, and improvement as affecting their efficiency is only a matter of time and progressive educational work.

The farmer must of necessity be taught that "poor seeds are dear at any price!" Under such conditions the dealers being confronted with more critical buyers who decline to accept "cheap or inferior seeds" will discontinue or discourage the sale of any but better grades, produced under favorable conditions and guaranteed as to germination and freedom from excessive admixtures of noxious weed seeds.

The great advantages to be enjoyed by Pennsylvania from the "Pure Seed Law" must accrue as well from other sources than those having to do merely with seed inspection and seed testing.

It is obvious that any seed laws placed upon the statute books have for their primary object, improvement of agricultural seeds, but to realize the greatest benefits to all concerned, we must revert to the source of much of the past difficulty and apply certain remedial measures on the farms where such seeds are produced.

The seed grower should understand that clean seeds, reasonably free from excess waste and weed seeds, in the end are a matter of dollars and cents to him, personally, and that the reputation of his business will receive the greatest stimulus through the exploitation of a guaranteed product exceeding in fact the returns from any other known source of advertising.

In the absence of a Federal law, it may not be possible for the State to "hold up" interstate shipments, even if suspected, but we may rest assured that few thinking farmers will send "repeat" orders to seed houses that flagrantly disregard the State law. Thus we may see the efficacy of our law depends in a large measure upon the degree of whole-hearted support and cooperation on the part of the farmers and the consistent observance of many related factors that for purely mechanical reasons may not be adequately covered in the law as written.

To this end we should have:

(1) A wider common knowledge of weeds and approved methods of control and eradication, to be taught in the graded and other public schools, and wholesome publicity through the rural newspapers and farm journals.

(2) The earnest cooperation of farmers and dealers and seed growers in Pennsylvannia, making for the establishment of standardized grades of approved strains and varieties, preferably grown, harvested and stored in the State under favorable conditions.

(3) A radical departure from the over-colored extravagant style of advertising of "so-called" phenomenal varieties, to be replaced by a plain, honest descriptive statement as to variety and merit.

(4) Cooperation with and dependence on State seed inspection service maintained by the Bureau of Plant Industry of the Pennsylvania Department of Agriculture.

Through such wholesome practices, it would soon be apparent, even to the uninitiated, that pure, clean seeds are "the best crop insurance!"

AN EXPLANATION OF THE PENNSYLVANIA SEED LAW

By
Ernest M. Gress, Ph. D.

OLD LAW INADEQUATE

The new seed law which became effective July 1, 1921, repealed the old law which had been in force since January 1, 1914, and which had proved inadequate to the needs of Pennsylvania farmers and honest, reliable seedmen. The old act merely established a standard of purity for each kind of seed sold for seeding purposes, and did not give the purchaser any information as to the nature of the impurities which the seed contained. For example, if the law required a purity of 95%, the 5% of impurities might consist of the most noxious weeds concerning which the farmer or purchaser was given no information. The law required no standards of purity for pasture and lawn mixtures which in many cases consisted of screenings and adulterated worthless seed; nor did it require a test of the germinating qualities of the seeds offered for sale. As a consequence old, immature, or dead seeds which would not germinate and impure, adulterated, worthless mixtures prohibited from sale in surrounding states and countries with more adequate and better seed laws, were shipped into the state and sold to farmers. The effect was a marked decrease in the yield of crops, and a constant increase in troublesome and noxious weeds.

NEED FOR A UNIFORM STATE SEED LAW

During the last few years there has been a constantly increasing demand for uniformity in the seed laws of the different states, with the result that a Uniform State Seed Bill has been drafted by the Association of Official Seed Analysts of North America. Already about one-half of the states have enacted a law largely conforming to this Uniform State Seed Law. The 1921 Pennsylvania law, with a few modifications to meet local conditions, likewise has been formulated in conformity with the Uniform Law.

PURPOSES OF THE LAW

The purpose of the 1921 law is to protect the honest seedman and the farmer or purchaser against the practices of dishonest seedsmen, by requiring that all seeds sold in certain quantities for seeding purposes shall bear a tag or label giving information as to purity, germinating qualities, and the nature and kind of impurities contained.

The law does not set a standard of purity for each kind of seed as did the old law. A high standard of purity does not necessarily mean first-class seed. 97% pure seed with 3% noxious weed seeds is inferior to a 90% pure seed with 10% inert matter and no weed seeds. It is, therefore, important that the farmer or purchaser should know, in addition to the percentage of purity, how much of the pure seed will germinate, and whether the impurities consist of harmless material and seeds, or whether it is made up of noxious and troublesome weed seeds. If all seeds offered for sale or sold for seeding purposes bear a label containing this important information, then the purchaser or farmer may decide for himself whether or not to buy the seeds.

PROVISIONS OF THE SEED LAW.

Agricultural Seeds Defined.

Section 1. defines the term "agricultural seeds" which includes practically every kind of seed sown or planted by farmers, gardeners and truckmen.

Noxious Weeds Named.

In Section 2, the following nine weeds are named as noxious weeds:—wild onion or garlic, quack grass, dodder, Canada thistle, devil's paint brush, king devil, perennial sow thistle, horse nettle and bind-weed. These nine weeds are considered noxious on account of their perennial roots, or some habit of growth or propagation which renders them particularly injurious or very difficult to eradicate when once established.

Weed Seeds Defined.

In Section 3. the term "weed seeds" is so defined to include the seeds or bulblets of the nine designated noxious weeds, and in addition all seeds not named as agricultural seeds in Section 1.

Classes of Seeds.

The law specifies three different classes of seeds. The first class includes all agricultural seeds, exclusive of vegetable seeds, which are sold as a single *unmixed* kind of seed. Seeds sold as a mixture of two or more seeds are not included in this class.

The second class includes those *mixtures* that contain only two kinds of seeds, each in excess of 5%, such, for example, as a mixture of timothy and alsike clover.

The third class includes those *special mixtures* that contain more than two kinds of seeds, each in excess of 5%, such as are often sold for pastures and lawns.

For convenience the first class may be called *Unmixed*, the second class *Mixture*, and the third class *Special Mixture*.

General Label Requirements.

The label requirements of the three classes of seeds are somewhat different. They are, however, alike in this particular,—that all three classes must be tagged or labeled. The labeling may be done in any one of three following ways:—

1. The package delivered to the customer may have the tag attached.
2. The tag may be delivered to the customer along with the package.
3. The bin, bag or container from which the seed is taken may bear the label.

The label in any of the three methods must be in a conspicuous place, and must be plainly written or printed in the English language.

Label Requirements of Unmixed Seed.

The label requirements of seed sold as one single unmixed kind are given under (a), (b), (c), (d), (e), (f), and (g), of Section 4. Every package or quantity of ten or more pounds must bear a label with,

(a) *The Common Name of the Seed.* The scientific name need not be given. For example, the commonly accepted name of *Phleum pratense* is timothy. The word *timothy* and not *Phleum pratense* is the one to be written on the tag.

(b) *The approximate percentage by weight of pure seed.* This percentage of purity means how much of the kind of seed indicated by the common name on the label is present, as compared with the combined weight of all other seeds and inert matter (chaff, bits of leaves, stones, etc.) present.

The word approximate as used here and elsewhere in the law is used in the same sense as the term "Latitude of Variation" in the "Rules of Seed Testing," adopted by the Association of Official Seed Analysts of North America, the explanation of which may be found on page 21 of this bulletin.

(c) *The approximate total percentage by weight of weed seeds.* In giving the percentage of weed seeds it is necessary to remember that all seeds present except those given in Section 1 as "agricultural seeds" must be considered weed seeds.

(d) *The name and approximate number per ounce of each of the nine noxious weed seeds* present must be given under the following conditions.

1. If more seeds than one are found in five grams of those small seeds named in Section 4-d-1.
2. If more seeds than one are found in 25 grams of the larger seeds named in Section 4-d-2.
3. If more seeds than one are found in one hundred grams of the still larger seeds named in Section 4-d-3.

Seeds containing noxious weed seeds are not prohibited from sale, except those containing dodder and Canada thistle in certain quantities as noted elsewhere in this bulletin; but the label must give the names of all noxious weeds present and the quantity as stated above. Our noxious weeds have been introduced and spread principally in impure seeds, and it is only fair that the farmer should know whether he is buying seed containing the seeds of weeds which may cost him much time, labor and expense in eradication.

(e) *The approximate percentage of germination with the month and year when the test was made.*

Many factors affect the germinating qualities of seeds, such as the weather conditions under which they were grown, the state of maturity when harvested, the place and manner of storage, and their age. In the past the farmer has been given no information on the germination of the seeds that he buys. Some seeds deteriorate rapidly after reaching a certain age, it is, therefore, necessary that the germination test should be made in a reasonably short time previous to planting the seeds. For this reason the month and year when the test was made are required on the label.

(f) *The full name and address of the person who sells the seeds must be given.*

(g) If any of the following four seeds are sold, the label must give *the place where they were grown*:— *Turkestan alfalfa, Italian grown red clover, Italian alfalfa and red clover grown in Chile.*

On account of different climatic conditions, clover and alfalfa grown from homegrown seeds, in general, are more hardy and give a better yield than that grown from imported seed, and especially from those here mentioned. Also, some of our most noxious weeds have come and are still coming to us in seeds imported from other countries. It is, therefore, fair to the farmer to know the source of the seed that he sows to raise these two most important forage plants.

Labeling Requirements of the Second Class or Mixtures of Only Two Kinds of Seeds.

Mixtures of only two kinds of seeds each in excess of 5% of the total mixture when sold in lots of ten pounds or more, must bear a tag or label giving essentially the same information as that required for the unmixed seed, with the following exceptions:—The tag must state that such seed is a *mixture*. It must also give the name and approximate percentage of *the two kinds of seeds which are in excess of 5%*, and it must give the name and approximate number per ounce of the seeds and bulblets of the *noxious weed seeds which are present in excess of one seed in fifteen grams of the mixture.*

Label Requirements of the Third Class or Special Mixtures of More Than Two Kinds of Seeds.

These Special Mixtures when sold in lots of eight ounces or more must bear a tag or label giving the following information.

- (a) That such seed is a mixture.
- (b) The *name* of each kind of seed in excess of 5% comprising the mixture. The *percentage*, however, need not be given.
- (c) The approximate percentage of weed seeds.
- (d) The approximate total percentage of inert matter.

Inert matter is composed of broken seeds, chaff, bits of sticks, leaves, stems, stones, etc. This class of mixtures frequently contains an exceedingly high percentage of inert matter, so that the purchaser receives a very small amount of good seed.

- (e) Noxious weeds same as in Second Class.
- (f) & (g) Same as in other classes.

Forms of Label.

The law does not require any particular form or kind of label. It specifies only the information that shall be put on the label and that the label shall be plainly written or printed in the English language, and shall be placed where it can be easily and quickly seen by the purchaser.

The seedsman would be less liable to omit any of the required information and would be greatly inconvenienced by having a supply of the commercial shipping tags printed to suit the requirements. A separate form of tag may be used for each of the three distinct classes of seeds, or one form may be printed to suit anyone of the three classes. Since the label requirement for the three different classes differ, if only one tag is used it will be necessary to have information on the tag which will not apply to all classes.

The following forms of tags are suggested:

No. 1

UNMIXED SEED	Common Name	-----
	Purity	----- % Weeds ----- %
	Noxious Weeds	-----
	(Name and no per oz. as specified)	

	Germination	----- % Date of Test -----
	Grown in	-----
	(Over)	

No. 1 is a form of tag suggested for labeling unmixed seeds as required by Section 4.

No. 2

MIXTURE	Name 1	-----	2	-----
	Purity 1	----- %	2	----- % Weeds ----- %
	Noxious Weeds	-----		
	(Name and no per oz. as specified)			

	Germination 1	----- %	2	----- %
	Date of Test	-----		
	Grown in	-----		
	(Over)			

No. 2. is a form of tag suggested for labeling mixtures of two kinds of seeds as required by Section 5.

No. 3

SPECIAL MIXTURE

Name _____

Inert Matter _____ % Weeds _____ %

Noxious Weeds _____

(Name and no. per oz. as specified)

Grown in _____ (Over) _____

No. 3. is a form of tag suggested for labeling special mixtures as required by Section 6.

No. 4

Unmixed—Mixture—Special Mixture

(Check required one)

Name or Names _____

Purity _____ % _____ %

Weeds _____ % Inert Matter _____ %

Noxious Weeds _____

(Name and no per oz. as required)

Germination _____ % Date of Test _____

Grown in _____ (Over) _____

No. 4. is a general form of tag which may be used for any class of seeds.

For _____

○ From:-

Name of Dealer _____

Address _____

(Over)

Reverse side of Nos. 1, 2, 3, and 4.

The disadvantage in using one form of tag like No. 4 is that one or more of the spaces need not be filled out, depending upon which class it is used for. The dealer therefore, must be careful that he does not omit some required information. The advantage in using a special tag for each class is, that every space must be filled out and the dealer will not be so likely to omit any required information.

SEEDS PROHIBITED FROM SALE.

Agricultural seeds or mixtures of the same that contain more than 3% by weight of weed seeds, or that contain one or more seeds of dodder, or one or more seeds of Canada thistle in each five grams are considered unfit for seeding purposes, and, therefore, a menace to the public. Such seeds shall not be sold for seeding purposes.

INJUNCTION PROCEEDINGS.

The Secretary of Agriculture is authorized to stop, by injunction, the sale of such seeds as are considered unfit for seeding purposes and are, therefore, prohibited from sale under Section 7 of the law.

EXEMPTION FROM LABELING.

Seeds may be sold in any quantity without a tag or label *only* under the following conditions:—

1. *When sold for food or feeding purposes only.*
If for any reason these seeds should be resold or offered for sale for seeding purposes, they then must bear a tag or label with the required information.
2. *When sold to be recleaned before being sold or offered for sale for seeding purposes.* Farmers may sell seeds under this condition to whomsoever they desire.

If the person who buys seeds under this condition offers them for sale for seeding purposes, he must first have them recleaned and fully tagged or labeled according to requirements.

3. *When held in storage for recleaning before being sold or offered for sale for seeding purposes.* They must, however, be tagged or labeled just as soon as they are offered for sale for seeding purposes.
4. *When sold for seeding purposes outside of the State of Pennsylvania.* For example, Pennsylvania can not compel a citizen to label seeds sold to a man in Maryland. If any dealer or person should be prosecuted for violating the provisions of the law, and should defend himself on the ground that the seeds were sold for seeding purposes outside the state, the burden of proof lies with the defendant and not with the plaintiff; that is, the person who sold the seeds must prove that he sold them for seeding purposes outside the state.

FARMERS NOT EXEMPTED FROM LABELING SEEDS.

No one who sells seeds for seeding purposes is exempt from labeling such seeds. Some states have passed laws exempting farmers from the label requirements, but in general these laws, when put to the final test, have been found unconstitutional. The farmer is the citizen who receives the greatest benefit from the law. He has been greatly injured by dishonest and irresponsible seedsmen. The law now gives him the protection that he has so long desired and needed. There is no reason why he should be exempted. He should not be allowed any more than anyone else to sell bad seed. The thoughtful, careful farmer who wishes to improve his crops by sowing better seeds, and to free his farm of noxious weeds by sowing clean seed does not wish to be exempted, and farmers of the opposite type must not be exempted.

INTERSTATE SHIPMENTS.

Retail seedsmen in the state should always demand that wholesale dealers in another state should give as nearly as possible the information required by the Pennsylvania Seed Law. This will give the retail dealer less trouble in labeling his seeds in conformity with the Pennsylvania law, before offering them for sale. Herein lies the advantage in having Uniform State Seed Laws.

TAKING SAMPLES.

The Secretary of Agriculture or his agents are authorized to enter, at reasonable hours without interference, any place where seeds are kept for sale for seeding purposes in order to take samples for analysis or examinations.

The method of taking samples shall be based upon that given under the "Rules for Seed Testing" as described elsewhere in this bulletin, and a fair value shall be offered the dealer for the sample taken.

NOTIFICATION OF ANALYSIS.

If upon analysis and examination it is found that the seeds have been falsely labeled, or that the law in any way has been violated,

the dealer shall be notified and a copy of the notice shall be sent to the person or firm whose tag or label was attached.

Retail seedsmen frequently will sell seeds on the analysis furnished by the wholesale dealer. He will, therefore, use the tag or label furnished by the wholesale seedsmen. He has a right to do this, but must be sure that the tag bears his own name and address and all the information required by the Pennsylvania law. If this has been done and the names of both wholesale seedsmen and retail dealers are on the tag, both will be notified of the violation of the law and likewise both, if within the state, may be held responsible.

SUBMITTING SAMPLES.

Any citizen of the state may submit samples for analysis subject, however, to Pennsylvania Rules and Regulations. The sample should be carefully taken according to the method given under the "Rules for Seed Testing," and should consist of not less than two ounces nor more than eight ounces, depending upon the size of the seeds.

WHERE AND HOW TO SEND SAMPLES.

All samples should be sent to The Seed Laboratory, Bureau of Plant Industry, Harrisburg, Pa., in strong containers to insure safe delivery. They should be accompanied by a statement giving the name of the seed, the sender's name and address, and the kind of test desired,—whether for purity or germination, or both.

COST OF ANALYSIS.

Every sample submitted for analysis must be accompanied by twenty-five cents. No test or analysis will be made until the fee is paid.

NUMBER OF SAMPLES TESTED.

The Secretary of Agriculture is authorized to limit the number of samples tested or analyzed for any one person in a given time. See Pennsylvania Rules and Regulations.

PUBLICATION OF ANALYSIS.

Any tests, analyses, or information of interest to the public, may be published in reports or bulletins along with the name and address of the person or firm who offers the seeds for sale. The name and address, however, of persons who submit samples of seeds for test or analysis, but who do not offer the seeds for sale, must not be published. For example, a farmer may send a sample of seed to the Bureau for analysis. He wishes to know the analysis for the sole purpose of planting the seed and not for selling. In this case the

farmer's name and address must not be published. Since he does not intend to sell the seed there is no advantage in publishing his name and address. However, if the farmer bought the seed from a dealer, the analysis and the name and address of the dealer may be published. The intent of the law is to protect the purchaser of seeds against those dealers who falsely label the seeds which they sell or offer for sale, or who in any way violate the law.

Farmers or persons having definite knowledge of such violations of the law, or having good reasons to suspect that the law is being violated should assist the Department of Agriculture in ascertaining the facts either by submitting samples for test and analysis, or by giving the name and address of the person, firm, or corporation that is violating the law. Care should be exercised, however, that such information or samples be submitted not with a spirit of revenge, but solely with the best interest of the public in mind.

If the honest reliable seedsmen and farmers and other buyers of seeds cooperate with the Department of Agriculture, the dishonest and irresponsible seedsmen can virtually be forced out of business by injunction and publicity.

RULES AND REGULATIONS.

Tests and analyses, when done by the same person with the utmost care, will necessarily vary. Two samples taken from the same bag or container will not be exactly alike, neither will germination tests made at different times be done under exactly the same conditions of moisture and weather. It is very necessary therefore, that uniform rules and regulations should be followed by all seed analysts.

The "Rules for Seed Testing" as recommended by the Association of Official Seed Analysts of North America, and printed below, should be followed as nearly as possible by the seedsmen's analyst, and by the analysts of the Bureau of Plant Industry. If these rules be followed and the analyses and tests are carefully done, the variation will in general fall within the limits given under "Latitude of Variation," on page 21 of this bulletin, and in case of germination within the limits given under the "Table of Allowable Variation Between Duplicate Germination Tests," on page 22 of this bulletin.

PENNSYLVANIA RULES AND REGULATIONS GOVERNING THE TESTING OF SEEDS.

The Secretary of Agriculture, who is empowered to make necessary rules and regulations for the efficient enforcement of the seed law, has provided that the "Rules for Seed Testing" recommended and followed by the Association of Official Seed Analysts of North America,

and printed elsewhere in this bulletin, shall be used. Attention, however, is called to some special regulations and important points in the following statements:

1. Only unmixed seeds named as "agricultural seeds," in Section I, will be tested.
2. A fair-size sample should be sent - about $\frac{1}{8}$ pound of small seeds, and $\frac{1}{2}$ pound of seeds as large as, or larger than wheat.
3. Samples sent by mail or express *must be prepaid*, and enclosed in strong containers.
4. Samples should be sent to the Bureau of Plant Industry, Harrisburg, Pa.
5. Each sample must bear the name of the seed, and the name and address of the sender.
6. A statement must accompany the sample telling what kind of test is desired, whether purity test, germination test, or both.
7. A fee of twenty-five cents must accompany the sample. No test will be made until the fee is paid. *Postage stamps will not be accepted.*
8. A statement should be made whether the seeds tested are for sale, or whether the test is for guidance in planting.
9. Seeds whose analysis is already known should not be sent for test, unless there is suspicion that the law is being violated, in which case a copy of the analysis given by the dealer should accompany the sample.
10. The name of the Bureau of Plant Industry must in no way be used for advertising purposes. The test and analysis, however, may be used for labeling purposes.
11. Not more than five samples will be tested in one month for any one person, firm or corporation.
12. Samples should be sent to be tested some time before the seeds are to be planted or sold. It requires nearly a month to make some germination tests.

PENALTY FOR VIOLATORS.

Anyone violating the provisions of the law or any reasonable rules or regulations shall be deemed guilty of a misdemeanor, and on conviction shall be sentenced to pay a fine of not more than two hundred dollars (\$200) for each offence.

Copies of the seed law may be secured free on application to the Director, Bureau of Plant Industry, Harrisburg, Pa.

TABLE III: LEGAL EQUIVALENTS IN POUNDS OF STANDARD MEASURED BUSHEL FOR AGRICULTURAL SEEDS.

Kind.	Pounds avoirdupois
Beans (dried)	60
Barley	47
Bluegrass	14
Buckwheat	48
Clover	60
Corn (shelled)	56
Corn (ear, husked)	70
Flaxseed	56
Hemp seed	44
Herd's grass	45
Hungarian grass	50
Kaffir corn	56
Linseed	56
Millet	50
Oats	32
Orchard grass	14
Peas (dried)	60
Popcorn (unshelled)	56
Rape seed	50
Redtop	14
Rice	45
Rye	56
Sorghum seed	50
Spelt	40
Timothy seed	45
Wheat	60

RULES FOR SEED TESTING.

PURITY TESTS.

Taking of Samples.

Failure to Secure Representative Samples Is One of the Most Common Causes of Variation in Tests of Seed. The Following Directions for Sampling are Recommended.

1. The minimum weight of seed forwarded for test should be approximately:
 - (a) one ounce of grass seed or any kind or of white and alsike clover, or seed of like size;
 - (b) two ounces of red and crimson clover, alfalfa, millet flax, or seed of like size;
 - (c) one-half pound of cereals or seed of like size.
2. Samples must be drawn so that they will represent as accurately as possible the bulk lot from which they are taken. They may be drawn:
 - (a) with seed triers which must be long enough to extend at least three inches into the bag; or,
 - (b) with long stickers which, when used for bags, will be extended from the top toward the bottom near the center; or,
 - (c) by hand, according to the circumstances described below.
3. Closed bags of clovers, grasses and other small seeds may be sampled:
 - (a) with a seed trier, taking approximately equal parts from near the top, near the middle, and near the bottom; or,
 - (b) with a long sticker.
4. Open bags, full or nearly so, may be sampled:
 - (a) by taking approximately one-third of the sample from the top of the bag by hand or with a seed trier, one-third from near the middle and one-third from near the bottom with a seed trier; or,
 - (b) with a long sticker.
5. Bags partly emptied may be sampled:
 - (a) with a long sticker;
 - (b) by dumping out contents and mixing before sampling.
6. Sacks of grain or other large seeds may be sampled:
 - (a) with a long sticker; or,
 - (b) by hand, taking approximately equal parts of the sample from at least three different places in the sack, including the top and opposite sides as near the bottom as practicable.
7. If a bag full or nearly so is to be sampled and no seed trier or sticker is available, the contents may be emptied out and approximately equal parts taken from at least three places in the pile, top, center and edge.
8. Any seed loose in boxes, barrels, bins, cars, or other receptacle may be sampled by taking approximately equal parts from at least three different places, top, center, edge, by hand or with a long sticker as circumstances may require.
9. Field, root, garden vegetable, or other seeds in carton boxes or paper bags may be sampled by emptying out the contents and taking seed from at least three different places to make up the sample. With paper packet seeds the whole packet should be taken.
10. If the seed drawn from different parts of a lot is in excess of the amount required for a sample, it must be thoroughly mixed before the sample to be sent for analysis is taken from it.
11. Samples should be drawn from each bag when there are not more than five bags in the lot; from every fifth bag when there are more than five bags, but never from less than five bags. Each sample so drawn may be kept separate and given a designation mark (such as a, b, c, etc.) or combined proportionately into one composite sample.

Light

Testing seeds for mechanical purity requires the constant use of the eyes in distinguishing seeds by their external characters. In order that this work may be done with the least possible eye-strain and the greatest comfort to the worker, a uniform source of light without direct sunshine or shadows is required. This is best obtained at laboratory tables in front of north windows, with the workers facing the windows.

Amount of Seed Used

All purity tests should be made by weight from smaller lots taken from the samples submitted. The minimum quantities used should be not less than those given below and should be taken from the sample submitted for test by use of a mechanical mixer and sampler. The sample should be repeatedly divided with the mixer and sampler until approximately the amount required for the test is obtained. The whole of this should then be used for the test making the sampling entirely mechanical.

When the analysis indicates that a law is violated or that the labeling is incorrect a duplicate test should be made.

- (a) *One gram*: *Agrostis* spp., *Poa* spp., Yellow oat grass, tobacco.
- (b) *Two grams*: Bermuda grass, velvet grass, timothy, meadow foxtail, crested dog's tail, orchard grass, sweet vernal grass, alsike clover, white clover, *Umbelliferae*, and all the fescues except meadow fescue.
- (c) *Five grams*: *Melilotus* spp., *Medicago* spp., *Lepedeza* spp., Millet, (*Chaetochloa italica*), lettuce, and all clovers except white and alsike and crimson. All grass seeds not enumerated elsewhere.
- (d) *Ten grams*: *Cruciferae* and flax, crimson clover, millet (*Panicum miliaceum*).
- (e) *Fifty grams*: Buckwheat, *Vicia* spp., *Lathyrus* spp., beet "balls", Esparcet, lentils, sunflower, teosinte, Serradella, vine seeds, and all cereals except corn.
- (f) *One-hundred grams*: Peas, beans, white lupine, cowpeas, cotton and corn.

Amounts to be taken of seeds not enumerated should be the same as those required for seeds named which are of similar size.

The determination of the number of seeds of the individual noxious weed seeds (including dodder) per unit weight should be made on the entire sample or the following minimum quantities for the various classes of seeds, unless more than five are found in the portion previously examined.

- (a) 25 gms. (b) 50 gms. (c) 50 gms. (d) 50 gms. (e) 250 gms. (f) 500 gms.

Method of Testing.

When the smaller average lot has been weighed, it should be separated, either by hand or mechanically and by hand, into four parts; pure seed, inert matter, seeds of other cultivated plants, and weed seeds. After separation has been made into these four component parts, the percentage by weight of each should be determined and recorded.

In cases where the reports issued require only a statement of the kinds and number for a given weight of weed seeds or other impurities without a percentage of purity determination, the method may be varied accordingly.

Pure Seed: Seed of the kind being examined. All seeds of the kind being examined should be considered pure seed without respect to their apparent condition, whether shriveled, cracked, or otherwise injured, except that in the case of cracked seeds, any piece larger than one-half should be considered as a pure seed, and pieces one-half or less should be considered as inert matter except further that decorticated seeds should be considered inert matter.

Inert Matter: Broken seeds, one-half or less and decorticated leguminous seeds, dirt, stones, chaff and any other matter not seeds. In testing grass seeds, empty glumes should be considered as inert matter and only glumes containing caryopses (grains) considered as pure seeds. The presence or absence of caryopses may be determined by pressing each glume between forceps or between the finger nail and the table, or with transmitted light by means of the mirror box. Sterile glumes of grass seeds to be separated from fertile glumes and put with inert matter.

Seeds of Other Cultivated Plants: The seeds of other cultivated plants should be separated and identified, the total percentage by weight determined, and the number or weight of each kind recorded.

Weed Seeds. Seeds of weeds should be separated and identified, the total percentage by weight, determined and the number or weight of each kind recorded.

Adulterated Samples: As seeds used as adulterants usually closely resemble the seed with which they are mixed, the making of purity tests of adulterated samples by the above method is slow and tedious, and the following shorter method is permitted: After the smaller average lot has been weighed out, separate the seed into four parts, (1) pure seed and adulterants; (2) inert matter; (3) seeds of other cultivated plants; (4) weed seeds. From the mixture of pure seed and adulterants, count out 500 seeds indiscriminately and separate the adulterants, from the pure seed. The percentage of each may be determined by their proportional number if seeds of adulterants and pure seed are of approximately the same weight but the determination is preferably made by weight in all cases.

Latitude of Variation: When analyzing samples from lots that have been previously tested or that have been put on the market under certain guarantees or

markings in respect to percent purity, an allowance should be made for the natural variation which may occur between different samples from the same lot, before reporting a lot of seed as being below the standard of the guarantee or markings. The following method shall be followed in determining the latitude of variation in any one of the four component parts into which a sample is separated in making a purity test and in determining the proportion of adulterants present. For each determination the sample shall be considered as made up of two parts: (1) the element being considered and (2) the balance of the sample. In determining the tolerance for *weed seeds* the sample shall be considered as being made up of two parts, (1) weed seeds, and (2) everything not weed seeds. In determining the tolerance for *inert matter*, the sample shall be considered as being made up of two parts (1) inert matter and (2) everything not inert matter; In determining the tolerance for *seeds of other cultivated plants* the sample shall be considered as being made up of two parts (1) seeds of other cultivated plants and (2) everything not seeds of other cultivated plants. In determining the tolerance for *pure seed* the sample shall be considered as being made up of two parts (1) pure seed and (2) everything not pure seed. The tolerance allowed shall be in the case of pure seed, weed seeds, inert matter and seeds of other cultivated plants, two tenths of one percent plus twenty per cent of the lesser part, (Examples: (1) seed marked 2 per cent weed seeds; latitude allowed, $0.2 \text{ plus } 0.4 = 0.6$ per cent.

GERMINATION TESTS

The following methods for making germination tests are not made official but are recommended by the Association:

Seed Used, Source and Quantity.

In making germination tests the entire amount of pure seed obtained in making purity test should be thoroughly mixed and 100 seeds, or 200, according to size, should be taken indiscriminately for each of the duplicate tests.

Duplicate Tests and Allowable Variation.

Germination tests should be made in duplicate simultaneously under identical conditions, preferably in separate germinating chambers, and the average percentage of germination of the duplicates should be recorded on the record sheet. If the duplicate tests vary more than the percentage provided below, a retest should be made and a supplementary test in sand or soil is also recommended.

TABLE I. *Allowable variation between duplicate germination tests.*

Percentage of germination	:	Percentage of allowable variation.
90 or over	:	6
80 or over and less than 90	:	7
70 or over and less than 80	:	8
60 or over and less than 70	:	9
50 or over and less than 60	:	10
40 or over and less than 50	:	10
30 or over and less than 40	:	9
20 or over and less than 30	:	8
10 or over and less than 20	:	7
0 or over and less than 10	:	6

A retest should always be made when there is evidence of poor germination at the time of making the first count. It is also recommended that retests be made simultaneously with a test of a sample which is known to germinate well.

Substratum or Seed-bed.

Chamber tests: Two kinds of substrata should be used for chamber tests. (1) Canton flannel of medium weight, cut in strips 8 by 32 inches and folded twice lengthwise, should be used for peas, beans, corn, lupines, cotton, cowpeas and other seeds of similar size. (2) Blue blotting paper, 120 pounds to the ream, free from injurious chemicals and water soluble dye, cut in strips 6 by 19 inches and folded twice lengthwise, should be used for all small seeds. Blotting paper should be used only once.

The Bell Jar Method: Blue blotting paper.

Daylight Germinator: Blotting paper, porous clay dishes, sand and soil are used as substrata in testing seeds in the daylight germinator.

Sand Tests: The sand used should be free from organic matter, sifted to a uniform size of approximately one (1) millimeter, and sterilized by steam.

Soil Tests: The soil used should be composed of loam, sand and leaf mold in proportions to give a light soil with good moisture holding capacity, sifted to remove all coarse material and sterilized by steam.

Placing Seed in Substrata: All seeds should be placed far enough apart to avoid contact during the process of germination.

Chamber and Bell Jar Tests: Seeds of *Agrostis* spp., *Poa* spp., timothy, tobacco, and others of similar size should be placed on top of blotters. All the largest seeds should be placed between the folds of blotting paper or cloth.

Daylight Germinator: All small seeds should be placed on top of blotters, sand, porous clay dishes, or soil.

Sand and Soil Tests: Seeds of *Agrostis* spp., *Poa* spp., timothy, tobacco, and others of similar size should be sown on the surface and the lightest possible covering of sand given them. All the larger seeds should be planted at depths about equal to twice their greatest diameter.

Moisture.

The blotting paper, filter paper, cloth, sand or soil used as a substratum should be kept well moistened, but not saturated, during germination test. In sand tests, the flats should be shaded from the direct rays of the sun to prevent rapid evaporation and consequent drying out of the layer of sand. Moisture should be supplied by clear subirrigation. Uniform results cannot be obtained if the flats are exposed to the direct sun, or the surface is washed as is the case when watered from a hose or sprinkling pot.

Alternating Temperatures.

Chamber tests: When alternating temperatures are used the seeds should be kept at the lower temperature for approximately eighteen hours and at the higher temperature for approximately six hours each day.

Sand Tests: All sand tests should be made in a room or greenhouse where the temperature is as nearly as possible that used for incubator test of the same kinds of seeds.

Counting Sprouts.

Light germinator, Chamber and Bell Jar Tests: The sprouted seeds should be counted and removed as nearly as possible as follows:

On 2nd and 4th days for 4 day tests.

"3rd and 5th days for 5 day tests.

"3rd and 6th days for 6 day tests.

"4th and 8th days for 8 day tests.

"5th and 10th days for 10 day tests.

"5th, 10th and 14th days for 14 day tests.

"7th, 14th and 21st for 21 day tests.

"7th, 14th, 21st and 28th days for 28 day tests.

All seeds of leguminosae should not be considered germinated when both cotyledons break off.

Sands and Soil Tests: Only those sprouts should be counted which appear above the surface of the sand or soil. The sprouts should not be removed at the time of making the preliminary report.

Supplementary Tests.

Supplementary tests in sand or soil are recommended in the case of all seeds which do not germinate well in the chamber, bell jar or light germinator tests. The results of the supplementary tests should be accepted when they show a higher percentage than the chamber tests.

Sterilization.

All cloths, bell jars, and other apparatus used in connection with germination tests should be carefully sterilized with steam or boiling water before using. Blotting paper should be used but once.

Hard Seeds.

In reporting the germination of sample of leguminous seeds, a portion of which usually remain hard at the end of the test, the actual percentage of germination* should be reported and also percentage of seed remaining hard.

Substrata, Temperatures, and Duration of Tests.

Table II gives the substrata, optimum temperatures, and days on which both preliminary and final reports should usually be made on chamber, bell jar and light germinator tests of the common seeds. Tests in which there are no hard seeds should be continued until all seeds either sprout or decay. For sand and soil tests a longer time should be allowed for preliminary and annual reports.

*Amended at the Toronto meeting January, 1922 so as to include percentage of hard seeds in the percentage of germination.

TABLE II. Substrata, Temperature, and Duration of Tests.

Kind of seed	Substratum	Temperature Centigrade	Day for making germination report	
			Preliminary	Final
*Field crops—				
Barley	B	20	3	5
Beans	C	20-30	3	6
Beets ^{1 2}	B	20-30	5	10
Buckwheat	B	20-30	13	5
Corn	C	20-30	3	5
Cotton	C	20-30	4	7
Flax	TB	20-30	2	5
Hemp	B	20-30	3	5
Oats	B	20	3	5
Peas	C	20-30	4	8
Rice	B	20-30	3	6
Rye	B	20	3	5
Tobacco	TB	20-30	7	14
Turnips	B	20	3	5
Wheat	B	20	3	5
Grasses, clover, forage plants—				
Alfalfa	B	20	3	5
Bermuda grass	BJ	20-35	10	21
Blue grass	BJ	20-30	14	23
Brome grass	B	20-30	5	10
Clover, alsike	TB	20	3	5
Clover, crimson	B	20	2	4
Clover, mammoth red	B	20	3	5
Clover, common red	B	20	3	5
Clover, white	TB	20	3	5
Cow peas	C	20-30	4	10
Crested dog-tail	B	20-30	10	18
Meadow fescue	B	20-30	5	10
Other fescues (Ovina group)	B	20-30	10	21
Meadow foxtail	B	20-30	6	10
Millet	B	20-30	3	5
Johnson grass	B	20-35	6	10
Orchard grass	B	20-30	6	14
Paspalum	B	20-35	6	14
Rape	B	20	3	5
Redtop	TB	20-30	5	10
Rescue grass	BJ	20-35	10	21
Rhodes grass	B	20-30	6	10
Rye grass	B	20-30	6	10
Sorghum	B	20-30	3	5
Sudan grass	B	20-30	3	5
Soy beans	C	20-30	4	8
Sweet vernal grass	B	20-30	6	14
Tall meadow oat grass	B	20-30	6	10
Teosinte	B	30	4	8
Timothy	TB	20-30	5	8
Turnips	B	20	3	5
Velvet grass	B	20-30	6	10
Vetch	C	20-30	4	14
Vegetables—				
Asparagus	C	20-30	6	14
Beans	C	20-30	3	6
Beets ^{1 2}	B	20-30	4	10
Cabbages	B	20	3	5
Carrots	B	20-30	6	14
Cauliflower	B	20	3	5
Celery	TB	20-20	10	21
Cucumbers	B	20-30	3	5
Eggplant	B	20-30	8	14
Kale	B	20	3	5
Lettuce ¹	B	20	2	4
Muskmelons	B	20-30	3	5
Okra	C	20-30	4	14
Onions	B	20-30	4	7
Parsley	B	20-30	14	28
Parsnips	B	20-30	6	21
Peas	C	20-30	3	6
Peppers	B	20-30	4	10
Pumpkins	C	20-30	3	6
Radishes	B	20	3	5
Salsify	C	20-30	5	10
Spinach	B	20	5	10
Squashes	C	20-30	3	6
Sweet corn	C	20-30	3	5
Tomatoes	B	20-30	4	10
Turnips	B	20	3	5
Watermelons	B	20-30	4	6

*In the case of cereals and timothy grown under such conditions that they are frosted or exposed to cold weather before harvest, the germination test should be made at lower temperatures, 15 to 20 degrees C., and continued for longer periods than for normal seed.

(1) Soak six hours in water at room temperature before testing for germination;

(2) It is recommended that the germination of beet seed be confined to determining the percentage of balls which give sprouts.

Note: B—Between blotting paper;

TB—On top of blotting paper;

BJ—Bell jar (these seeds may also be germinated in daylight germinator);

C—Between folds of cloth;

Keeping Samples.

The original sample should be kept in a dark, dry, cool place for six months for use if a retest is found necessary. The separations made in making the test should be enclosed in envelopes or vials and filed for reference.

Record Sheets.

A record sheet should be kept for each sample, on which should be recorded the serial test number; the sender's identification mark; the name of the seed; the name and address of the sender; the year and place of growth, if known; the weight of the smaller average lot used in making the purity test; the percentage by weight of pure seeds; the percentage by weight and character of the inert matter; the percentage by weight of other crop seeds and of weed seeds with a memorandum of the number or percentage of each; the temperature and kind of substratum; the number of seeds germinated at the time each count was made; the average percentage of germination and the day of the test upon which the preliminary report was made; the number of seeds remaining hard at the close of the test, the total average percentage of germination and the duration of the test, the presence of weak sprouts and mould, or such information as is required for the report.

Reports.

All reports should show the date of receipt of the sample, the serial test number, the sender's identification mark, and the common name of the seed.

Purity Test Report.

This should show the percentage by weight of the pure seed, the percentage by weight and character of the inert matter, the percentage by weight of seeds of other cultivated plants and the percentage by weight of weed seeds. The quantity of each important foreign seed present should be shown and special attention should be called to the seeds of all noxious weeds, or such information as is required by law to be given with seed offered for sale where the report is issued. Only in cases where it is especially requested reports of purity tests be made before completion of the germination test.

Complete Report.

This should include the purity report, the duration of the germination test, the average percentage of germination, and the actual value of the sample. The actual value is obtained by multiplying the percentage of the pure seed by the total germination of the pure seed. This gives the percentage of the original bulk which is of value for planting purposes. The statement of the actual value should be given a more prominent place on the report, than the percentage statement of purity or germination. The noxious weed seed content should be emphasized.

APPENDIX.

THE PENNSYLVANIA SEED LAW

AN ACT

Regulating the selling, offering or exposing for sale of agricultural seeds and mixtures of the same for seeding purposes; forbidding the sale of seeds unfit for seeding purposes; and providing for the prohibition of such sales by injunction; providing for the taking and examination of samples of agricultural seeds, by the Secretary of Agriculture and his agents, and the publication of information gained from such examinations; providing for the enforcement of the act; and providing penalties for its violation.

Agricultural seeds defined.

Section 1. Be it enacted, &c., That the term "agricultural seeds," as used in this act, shall include the seeds of Canada blue grass, Kentucky blue grass, brome grass, fescues, millets, tall meadow oat grass, orchard grass, redtop, Italian rye grass, kaffir corn, perennial rye grass, sorghum, Sudan grass, timothy, alfalfa, alsike clover, crimson clover, red clover, sweet clover, white clover, Canada field peas, cow peas, soy beans, vetches, buckwheat, flax, rape, barley, field corn, oats, rye, wheat, and other grasses, legumes, cereals, and forage plants and vegetables. The term "vegetable seeds" shall include all seeds which are commonly known as vegetable seeds, and which are of the kind used for the purpose of raising garden and truck crops.

Vegetable seeds defined.

Noxious weeds defined.

Section 2. For the purposes of this act, the following shall be defined as noxious weeds: Wild onion or garlic (*Allium* spp.); quack grass (*Agropyron repens*); dodders (*Cuscuta* spp.); Canada thistle (*Cirsium arvense*); devil's paint brush (*Hieracium aurantiacum*); king devil (*Hieracium* spp.); perennial sow thistle (*Sonchus arvensis*); horse nettle (*Solanum carolinense*); bindweed (*Convolvulus* spp.).

Weed seeds defined.

Section 3. For the purposes of this act, the term "weed seeds" shall include all seeds and bulblets of noxious weeds, and in addition thereto, all seeds other than agricultural seeds.

Sale of agricultural seeds.

Section 4. It shall be unlawful to sell, offer for sale, or expose for sale any agricultural seeds, exclusive of vegetable seeds, as defined in section one of this act, for seeding purposes, in bulk, package, or containers of ten pounds or more, unless there shall be delivered to the purchaser, or unless the package or container in which the same shall be exposed or offered for sale shall have attached thereto in a conspicuous place on the exterior thereof, a tag or label, on which shall be plainly and legibly written or printed in the English language the following information relating to such seeds:

Tag or label.

Contents of label.

(a) Commonly accepted name of such agricultural seeds.

(b) The approximate percentage, by weight, of purity, meaning the freedom of such agricultural seeds from inert matter and from other seeds distinguished by their appearance.

(c) The approximate total percentage, by weight, of weed seeds.

(d) The name and approximate number per ounce of each kind of the seeds or bulblets of noxious weeds which are present singly or collectively, as follows:

(1) In excess of one seed or bulblet, in each five grams of timothy, redtop, tall meadow oat grass, orchard grass, crested dogtail, Canada blue grass, Kentucky blue grass, fescues, brome grasses, perennial and Italian rye grass, western rye grass, crimson clover, red clover, white clover, alsike clover, sweet clover, alfalfa, and all other grasses and clovers not otherwise classified.

(2) In excess of one, in twenty-five grams of millets, rape, flax, and other seeds not specified in one (1) or three (3) of this subsection.

(3) In excess of one, in one hundred grams of wheat, oats, rye, barley, buckwheat, vetches, and other seeds as large as or larger than wheat.

(e) The approximate percentage of germination of such agricultural seeds, together with the month and year in which the seeds was tested: Provided, That this statement shall not be made a basis for prosecution under this section: And provided further, That, whenever the Secretary of Agriculture shall test or cause to be tested samples of such seed, and shall publish the results of germination tests thereof, he shall, in such publication, state the month and the year in which his test was made, together with the month and year of test stated on the label.

(f) The full name and address of the vender of such agricultural seeds.

(g) The country or locality of origin in the case of the following imported seeds: (one) Turkestan alfalfa; (two) Italian grown red clover; (three) Italian grown alfalfa; (four) red clover grown in Chili.

Section 5. It shall be unlawful to sell, offer for sale, or expose for sale, as a mixture, any mixture of agricultural seeds for seeding purposes which contains not more than two kinds of such seeds in excess of five per centum (5%), by weight, each, in bulk, package, or containers of ten pounds or more, unless there shall be delivered to the purchaser, or unless the package or container in which the same shall be exposed or offered for sale shall have attached thereto in a conspicuous place on the exterior thereof, a tag or label, on which shall be plainly and legibly written or printed in the English language the following information relating to such mixture:

(a) That such seed is a mixture.

(b) The name and approximate percentage, by weight, of each kind of agricultural seed present in such mixture in excess of five per centum (5%), by weight, of the total mixture.

Sale of mixtures.

Label or tag.

Contents of label.

(c) Approximate percentage, by weight, of weed seeds.

(d) The name and approximate number per ounce of each kind of the seeds or bulblets of the noxious weeds which are present singly or collectively in excess of one seed or bulblet in each fifteen (15) grams of such mixture.

(e) The approximate percentage of germination in such mixture in excess of five per centum (5%), by weight, of each kind of agricultural seed present, together with the month and year in which the seed was tested: Provided, That this statement shall not be made a basis for prosecution under this section: And provided further, That, whenever the Secretary of Agriculture shall test or cause to be tested samples of such seed, and shall publish the results of germination tests thereof, he shall, in such publication, state the month and the year in which his test was made, together with the month and year of test stated on the label.

(f) The full name and address of the vender of such mixtures.

(g) The country or locality of origin of the following imported seeds, if such seeds are present: (one) Turkestan alfalfa; (two) Italian grown red clover; (three) Italian grown alfalfa; (four) red clover grown in Chili.

Sale of other mixtures.

Label or tag.

Contents of label.

Section 6. It shall be unlawful to sell, offer for sale, or expose for sale, as a mixture, any mixture of agricultural seeds for seeding purposes, other than the mixtures specified in section five of this act, in bulk, packages, or containers of eight ounces or more, unless there shall be delivered to the purchaser, or unless the package or container in which the same shall be offered or exposed for sale shall have attached thereto in a conspicuous place on the exterior thereof, a tag or label, on which shall be plainly and legibly written or printed in the English language the following information relating to such mixture:

(a) That such seed is a mixture.

(b) The name of each kind of agricultural seed present in such mixture in excess of five per centum (5%), by weight, of the total mixture.

(c) The approximate total percentage, by weight, of weed seeds.

(d) Approximate percentage, by weight, of inert matter.

(e) The name and approximate number per ounce of each kind of the seeds or bulblets of noxious weeds which are present singly or collectively in excess of one seed or bulblet in each fifteen (15) grams of such mixture.

(f) The full name and address of the vender of such mixture.

(g) The country or locality of origin of the following imported seeds, if such seeds are present: (one) Turkestan alfalfa; (two) Italian grown red clover; (three) Italian grown alfalfa; (four) red clover grown in Chili.

Section 7. It shall be unlawful to sell, offer or expose for sale or distribution any agricultural seeds, or any mixture of the same, for seeding purposes, when such agricultural seeds or mixtures shall contain more than three per centum (3%), by weight, of weed seeds, or shall contain one or more seeds of dodder (*Cuscuta* spp.) or one or more seeds of Canada thistle (*Cirsium arvense*), to five grams of such seed or mixture. Such agricultural seeds or mixtures are hereby declared to be unfit for seeding purposes, and their use for such purposes to be a menace to the public.

Sale of certain seed prohibited.

Section 8. Whenever the Secretary of Agriculture receives information that agricultural seeds, or any mixture of the same, which are hereinbefore declared to be unfit for seeding purposes, are being sold, offered for sale, or exposed for sale in this Commonwealth, and is of the opinion that the interests of the public so require, he may present to the court of common pleas of the county in which is located the residence or place of business of the person, firm, or corporation selling, offering for sale, or exposing for sale such seeds, his petition for an injunction to restrain the same, and thereupon the court, being satisfied that such seeds are being sold, offered for sale, or exposed for sale, shall issue its injunction to restrain such person, firm, or corporation from selling, offering for sale, or exposing for sale such seeds.

Injunction against sales.

Section 9. The Secretary of Agriculture and his agents:

Powers of Department of Agriculture.

(a) Shall have free access, at all reasonable hours, to any premises or structures, to make examinations of any agricultural seeds or mixtures intended for sale for seeding purposes, whether such seeds are upon the premises of the owner, dealer in, or consignee of such seeds, or on the premises or in the possession of any warehouse, elevator, railway, or steamship company; and they are hereby authorized, upon notice to the owner, dealer, or consignee, or his agent, or to the representative of any warehouse, elevator, railway or steamship company, if present, to take for test or analysis, upon tendering the fair value thereof, a composite sample of such agricultural seeds or mixtures.

Searches and seizures.

In case any sample, taken as herein provided, upon test or analysis is found to fall below the statements on the tag or label attached to the container from

Tests and analyses.

which such sample was secured, or otherwise to violate any of the provisions of this act, the owner, dealer in, or consignee of the seeds tested as analyzed shall be notified, and a copy of said notice shall be delivered or mailed to the person, firm, or corporation whose tag or label was found affixed thereto.

Tests and analyses on application of owner.

(b) Are hereby authorized to test or analyze any samples of agricultural seeds which may be submitted for those purposes by any citizen of this Commonwealth, subject to such rules and regulations as the Secretary of Agriculture may adopt. The Secretary of Agriculture, by rule or regulation, may fix the maximum number of samples which may be tested or analyzed for any one citizen within a given period of time. He shall, for each such test and analysis, charge and collect in advance a fee of twenty-five cents. All fees paid under the provisions of this subsection shall be paid by the Secretary of Agriculture into the State Treasury.

Fees.

Bulletins and reports.

(c) Are hereby authorized to publish, or cause to be published, in bulletins or reports, any and all information obtained from tests or analyses made by them under the provisions of this act which the Secretary of Agriculture may deem proper for publication in the interest of the public, including the names and addresses of any persons who have sold, offered for sale, or exposed for sale any agriculture seeds so tested or analyzed: Provided, however, That they shall not publish the name or address of any citizen who shall have submitted samples of seeds for test or analysis under subsection (b) hereof, but who has not sold, offered for sale, or exposed for sale any such seeds.

Provide

Interference with enforcement of act.

Section 10. Any one interfering with the person charged with the enforcement of this act or any of his duly authorized agents when in the discharge of the duties herein enjoined, or refusing such persons the privilege of entering any place to which under the provisions of this act they shall have access, shall be guilty of a violation of this act.

Enforcement of act.

Section 11. The Secretary of Agriculture is hereby specifically charged with the enforcement of the provisions of this act. He shall make any such reasonable rules and regulations, not inconsistent with this act, as he may deem necessary to secure the efficient enforcement thereof, and any such rule or regulation made by him shall be published in bulletins or reports or in pamphlet form, and distributed to all persons who may apply therefor.

False marks or labels.

Section 12. It shall be unlawful to falsely mark or label any agricultural seeds, or mixtures thereof, required to be marked and labeled under the provisions of this act.

Section 13. Any person, copartnership, association, or corporation, and any officer, agent, servant, or employe thereof, violating any of the provisions of this act or any reasonable rule or regulation promulgated thereunder, shall be guilty of a misdemeanor, and, on conviction, shall be sentenced to pay a fine of not more than two hundred dollars (\$200) for each offense. All fines collected under authority of this act shall be paid to the Secretary of Agriculture or his agent, and shall be by them paid into the State Treasury.

Violations.

Misdemeanor.

Penalty.

Section 14. Agricultural seeds, or mixtures of the same, shall be exempt from the provisions of this act:

When seeds are exempt from act.

(a) When possessed, offered for sale, exposed for sale, or sold for food or feeding purposes only.

(b) When sold for the purpose of being recleaned before being sold or exposed for sale for seeding purposes.

(c) When stored for the purpose of recleaning, or not possessed, sold, or offered for sale for seeding purposes within the state: Provided, That, whenever in any prosecution brought for a violation of the provisions of this act, the defendant shall defend upon the ground that any seeds were sold, offered for sale, or exposed for sale for seeding purposes outside of this State, the burden of proving such fact shall rest upon such defendant.

Provide.

Section 15. This act shall take effect and be in force on and after the first day of July, one thousand nine hundred and twenty-one.

When effective.

Section 16. The act of General Assembly, approved the twenty-ninth day of April, Anno Domini one thousand nine hundred and thirteen (Pamphlet Laws, one hundred and twenty-seven), entitled "An act to regulate the sale of certain seeds; providing for the selection of samples thereof, and their examination by the Department of Agriculture, and the publication of information concerning the same; providing also for the enforcement of the act; and fixing penalties for its violation," and all other acts or parts of acts inconsistent herewith are hereby repealed.

Act of April 29, 1913 (P. L. 127), repealed.

Repeal.

APPROVED—The 26th day of April, A. D. 1921.

WM. C. SPROUL.

The foregoing is a true and correct copy of the Act of the General Assembly No. 159.



Secretary of the Commonwealth.

